

# Surjyadip Sen

Helping individuals and organizations increase efficiency by automating repetitive tasks

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## Summary

**Full Stack Developer** specializing in **scalable real-time data analytics** and **AI-driven automation**. Proficient in **Next.js, React Native, Python, and C++**, with a proven track record in building high-performance systems for **crypto data aggregation** and **embedded IoT devices**. Experienced in managing production-grade environments using **Docker, Jenkins, and PostgreSQL**.

## Experience

### Integrity Technologies Pvt Ltd

Intern (Web and App Developer)

Remote

Aug, 2025 - March, 2025

Build and maintained both website and mobile app, migrated to newer technologies, worked on Payment Gateway integrations and developer experience, reducing user facing and system failures and maintained the infrastructures.

Tech Stack: React Native/Expo, Django, React/Next Js, Jenkins, Celery, PostgreSQL, AWS

### Freelance

Independent consultant

Remote

Feb, 2024- Jan, 2025

## Projects

### EdgeAI Hand Gesture Classifier

Aug 2025 - Mar 2026

Autonomous, self-contained gesture recognition system using K-Nearest Neighbors (KNN) with SIMD hardware acceleration. Achieved real-time inference in microsecond range with up to 98% accuracy. Implemented on-device training and persistence using SPIFFS for custom user-defined labeling.

Tech Stack: C, C++, ESP-IDF, FreeRTOS, ESP32-S3, TinyML, SIMD, Xtensa LX7, SPIFFS

### CryptoDataAggregator

Nov 2023 - Jul, 2025

Optimised multi exchange crypto trading by building uniform database holding data in uniform format, allowing custom timeframe calculations and indicators calculation. Providing realtime feedback with custom alerts, strategic entry signals and portfolio analysis.

Tech Stack: Python, Postgresql, Celery, Redis, Docker (compose)

### Vision Orator

Jul 2025

On device ML based gesture and object recognition accompanied with speech to text for differently abled person, running on browser allowing easy access and accessibility with offline more.

Tech Stack: NextJs/React, Web Technologies

### OptiSeat

Nov 2024 - Dec 2024

Web based seat allocation software for institutions facilitating bulk editing, configurable rooms and inbuilt error checking for edge cases

Tech Stack: Python, Streamlit, Sqlite

### QuantTrade Aggregator

Aug 2025 - Dec 2025

Engineered a high-performance data pipeline for real-time cryptocurrency market analysis, aggregating trade data across multiple exchanges. Developed custom timeframe aggregators and technical indicator calculators, delivering sub-second latency for strategic entry alerts and portfolio risk assessment.

Tech Stack: Python, PostgreSQL, Celery, Redis, Docker, Nginx

## Skills

### Languages

Python, C/C++, JavaScript, TypeScript

### Frameworks

Django, Fast API, React/NextJS, React Native/Expo, Tailwind CSS, Tensorflow

### Packages

Py: Pytorch, Tensorflow, Pandas, Numpy

### Tools and systems

Git, Bun, Node, Docker (swarm), Linux, Traefik/Nginx

## Education

Vellore Institute of Technology  
Computer Science

B.Tech CSE Core  
Chennai, India • 2025-2029



## Interests

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### Data Science and Machine Learning

Maths, Statistical Analysis, Calculus, Research

### Finance

FinTech, Quant, Stocks, Bonds, Market Analysis

### Embedded Systems and IoT

ESP32, Arduino, Sensors, Wireless, Realtime analytics

### Entrepreneurship

Business, Strategy, Market Research, Investment

## Languages

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### English

Advance

### Hindi

Intermediate

### Bengali

Intermediate

### German

Beginner

